

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for efficient routing in a multiple hop wireless communication network characterized in that data packets are routed over transmission paths using the following steps:

providing link status information by acquiring link status quality between nodes in the network;

updating a routing element (101) with said link status information;

determining possible routes with essentially similar link quality status for said data packet; and

routing said data packet via the determined routes.

2. (Original) The method according to claim 1 further comprising the step of combining said data packets at a destination node.

3. (Currently Amended) The method according to ~~any of above claims~~ claim 1 further comprising the step of replacing one of said data packets with parity bits for error detection and error correction purposes.

4. (Currently Amended) The method according to ~~any of above claims~~ claim 1 characterized in that said wireless link comprise the step of using a

transmission system based on electromagnetic radiation with a frequency in the range of 100 kHz to 100 PHz.

5. (Original) The method according to claim 4 characterized in that said transmission system comprise the step of using a transmission system from one or several of the following radio standards: IEEE 802.11, IEEE 802.15, IEEE 802.16 HiperLAN, HomeRF, Bluetooth, IR, UWB, JTRS, 3G, GPRS, and EDGE.
6. (Currently Amended) A system for efficient routing in a communication network having a plurality of nodes, each node comprising
 - link status acquiring ~~(3001)~~ means for acquiring information about link status between neighboring nodes;
 - updating means ~~(102)~~ for updating routing means ~~(101)~~ with said link status information;
 - determination means ~~(3002)~~ using said link status information for determining possible routes for routing of a data packet; and
 - routing means ~~(101)~~ for routing said data packet via said determined routes.
7. (Original) A system according to claim 6 wherein communication between said nodes is wireless.

8. (Original) A system according to claim 7 wherein the communication network is an ad hoc network.
9. (Original) The system according to claim 6 comprising the step of replacing one of said data packets with parity bits for error detection and error correction purposes.
10. (Original) The system according to claim 7 characterized in that said wireless communication comprise a transmission system based on electromagnetic radiation with a frequency in the range of 100 kHz to 100 PHz.
11. (Original) The system according to claim 10 characterized in that said transmission system is one or several of the following radio standards: IEEE 802.11, IEEE 802.15, IEEE 802.16 HiperLAN, HomeRF, Bluetooth, IR, UWB, JTRS, 3G, GPRS, and EDGE.
12. (Currently Amended) A node ~~(800)~~ in a communication network having a plurality of nodes, said node comprising
 - processing means ~~(801)~~ for processing network control information;
 - storing means ~~(802)~~ for storing network control information;
 - transmission means ~~(805)~~ for transmitting data packets;
 - link status acquiring means ~~(3001)~~ for acquiring link information comprising link status and link quality between neighboring nodes;

determination means ~~(3002)~~ using acquired link information for determining at least two routes to a destination for routing of a data packet; and
routing means for routing said data packets via said determined routes.

13. (Currently Amended) The node ~~(800)~~ according to claim 12 wherein communication between nodes is wireless.

14. (Currently Amended) The node ~~(800)~~ according to claim 13 wherein said communication network is an ad hoc network.

15. (Currently Amended) The node ~~(800)~~ according to claim 12 comprising the step of replacing one of said data packets with parity bits for error detection and error correction purposes.

16. (Currently Amended) The node ~~(800)~~ according to claim 12 characterized in that said wireless communication comprise a transmission system based on electromagnetic radiation with a frequency in the range of 100 kHz to 100 PHz.

17. (Currently Amended) The node ~~(800)~~ according to claim 16 characterized in that said transmission system is one or several of the following radio standards: IEEE 802.11, IEEE 802.15, IEEE 802.16 HiperLAN, HomeRF, Bluetooth, IR, UWB, JTRS, 3G, GPRS, and EDGE.

18. (Currently Amended) A wireless communication network comprising a system according to ~~any of claims~~ claim 6—11, comprising one or several nodes according to ~~any of claims 12—17~~.

19. (Currently Amended) A computer program in a node in a wireless communication network, the program comprising:

a first instruction set for acquiring link status information between nodes in the network;

a second instruction set for updating a routing element ~~(101)~~ with said link status information;

a third instruction set for determining possible routes with essentially similar link quality status; and

a fourth instruction set for routing a data packet via said determined routes.